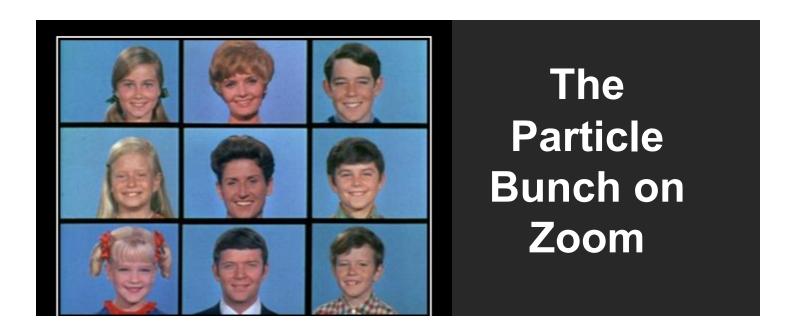


Snowmass CompF2 – Theo. Calc. and Simulation

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Towards the CompF2 (TCandS) report

- Official Snowmass deadlines [consistent with P5 constraints]
 - Frontiers/TGs produce outlines of their reports (Feb. 2021 May 2021)
 - Frontiers/TGs produce preliminary reports with community feedback (April 2021 July 2021)
 - White Papers (WP) uploaded by authors to the online system (July 2021)
 - Community Summer Study (CSS) (July 11-20, 2021 in UW Seattle)
 - Final reports from Frontiers, Steering Group produces Snowmass Executive Summary, Snowmass Draft Report and Peer Review, Snowmass Final Report (August – October 2021)
- Proposed CompF2 deadlines [for internal consistency]
 - CompF2 collects additional information* (Nov. 2020 March 2021)
 - Abstracts and early draft of WPs made available to CompF2 (March 2021)
 - CompF2 produces an outline of the report (April 2021)
 - CompF2 produces a Preliminary TG report (April 2021 June 2021)
 - Iteration consistent with official Snowmass deadlines



^{*} Explained in next slide

Towards the TCandS report

Physics Frontiers (PFs) propose future physics programs and associated experimental facilities Computing Frontier (CompF) identifies S&C challenges and propose solutions

- Near future (10-15 yrs): focus on upgraded or new experiments underway or already approved
- Far future: focus on experimental facilities and physics programs beyond 2040
 - Important caveat: S&C technology beyond 2040 almost impossible to predict, but software tools and computing infrastructure to make the case for far future programs are near future needs (e.g. fast and accurate accelerator simulation tools, theory calculations, generator packages, simulation toolkits)

CompF2 report content must focus on near future needs, challenges, work plan roadmap for both near future and far future physics programs and facilities

- 1. Input from August CompF workshop, LOIs, October CPM, PFs workshops, liaisons, WP drafts
- 2. Reformulate into quantitative statements on S&C needs and challenges: software tool requirements, physics accuracy and compute performance gaps, rapidly changing computing technologies
- 3. Define a roadmap for a work program to address the challenge based on US interests and strengths

Additional information in the previous slide refers to quantitative info to go from 1 to 2 and 3

Idea and content of a proposed survey will be discussed by P. Boyle next

Towards the TCandS report

As we move towards drafting the CompF2 report we must focus

- Less on our interesting individual physics ideas (more relevant to the PFs)
- More on reformulating physics programs into S&C needs, challenges and defining a S&C roadmap consistent with US needs, interests, and well integrated into the international community

CompF2 conveners will be requesting overarching, vision WPs with S&C needs, challenges, work programs well motivated by physics programs (large and small)

- In most cases, these WPs have already been proposed in LOIs
 - CompF2 meetings for early WPs overview and consensus that community coverage is adequate

D,J,P main editors of CompF2 report, will seek to form writing teams for content contributions

- Length: 20-50 pages?
- Content: sections on sub-domains such as cosmology calculations, accelerator modeling, physics generators, detector simulation, pertubative calculations, non-perturbative calculations (LQCD)?
- Contributing editors: candidates are the current sub-domain contacts or other volunteer experts

Need to discuss today (and in subsequent meetings?) how to make the report process open, participative, inclusive, interactive, iterative – meetings format, content, frequency if any

Important request

For CompF2 sub-domain contact people

- Send Peter, Ji, Daniel information of mailing lists, Slack channels, or any other mean of communication you have setup within your sub-domain
 - The information will be made publicly available in the Snowmass web page for newcomers to find their way into CompF2 activities
- Actually, if you are attending the meeting today, please add the information to the Live Notes